**Why Watersheds are Important**

From towering mountains to flat prairies, from the tundra to all ocean coasts, from cities to towns, villages, ranches and modest farms, everyone lives in a watershed. Here’s a list of some of the many vital needs served by watersheds:

**Water**: Watersheds supply water — a fundamental need of all living things. Without it, people and wildlife can’t survive.

**Drinking water**: People and wildlife need drinkable water. Watersheds provide the water that enters our homes from wells or from systems of pipes from a treatment plant. We use it for cooking and other household needs. Wildlife also needs sources of safe drinking water.

**A place to live**: Watersheds are like huge neighbourhoods within which all living things — plants, animals and people — share water.

**Wildlife habitat**: Whether it’s a bird, butterfly, bear or bat, all wildlife needs habitat. Water is a vital part of their habitat, which also includes food, shelter and space, arranged just right for each species. Beavers, fish, shore birds, frogs, turtles and snakes are among the aquatic species of wildlife that live in or around the water supplied by a watershed.

**Irrigation**: Farmers draw on water in watersheds from the Earth’s surface (such as ponds) or from beneath the ground to irrigate crops for food and provide water for livestock.

**Industry**: Most industries draw water from watersheds in manufacturing processes or for cooling and cleaning. Fish industries depend on water from streams, lakes, rivers and oceans

**Recreation**: Watersheds provide the lakes, streams and rivers we use for fishing, boating, swimming, ice fishing or relaxing on a beach.

**Beauty**: Scenic waterways or ocean coasts are among the natural features in our landscape that give us cause to reflect, admire and share in the beauty of our environment.

**What is a Watershed and Why is it Important?**

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| **What is a Watershed?** | |
|  | A watershed is the area of land for which water drains into a common body of water. This includes water that flows across the land as streams and rivers as well as water that moves through the land as groundwater. A watershed is often also referred to as a "river basin," a "river valley," or a "drainage basin."   In a more meaningful sense, watersheds are "communities connected by water." Activities that occur on the land or in the waterway of one town will affect the land and waterways of other towns within that watershed.   To locate your watershed, visit EPA's website, "Surf Your Watershed," which allows you to enter your zip code and find out the watershed in which you live. To locate your watershed, go to <http://epa.gov/surf/> |
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| **Why are Watersheds Important?** | |
|  | Many water quality problems are best solved at the watershed level rather than at the level of an individual waterbody or discharger. It is important that a watershed approach be used to address water quality concerns because land-use decisions made in one area of a watershed will inevitably affect those living in another part of the watershed. Since watersheds can encompass several towns, states or even counties, this approach often requires cooperative efforts among a variety of entities. |
| **How Land Use Within a Watershed Affects Water Quality** | |
|  | Water quality is impacted by both point and nonpoint source pollution. Point sources are those discharges that come directly from pipes such as industrial and sewage treatment plants. Nonpoint source pollution, however, comes from many diffuse sources in which pollutants are transported by runoff from rainfall and snowmelt as makes its way to a waterbody. These nonpoint sources are a direct result of land use decisions. For example, common nonpoint sources of pollution include excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas; oil, grease, and toxic chemicals from urban runoff; sediment from improperly managed construction sites and eroding streambanks; salt from irrigation practices and roads; and bacteria and nutrients from livestock, pet wastes, and faulty septic systems. As the amount of impervious surface increases in a watershed, the amount of runoff increases which in turn amplifies the effects of these nonpoint sources of pollution. (<http://www.okcc.state.ok.us/WQ/WQ_FAQ.htm> |

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[**http://www.rpi.edu/dept/DFWI/dfwiwq/watersheds.html**](http://www.rpi.edu/dept/DFWI/dfwiwq/watersheds.html)

Watersheds  
Where does your drinking water come from? Is it treated before it comes into your home? If so, where is it treated, and how? Clean water is essential to life, but many people are unfamiliar with the answers to these and related questions. By encouraging students to do authentic scientific research on the watersheds in their communities, EI facilitates a better understanding of water resources and the scientific process.

What is a watershed?  
A watershed is the area of land that drains into a stream, river, lake, or other body of water. Watersheds can be both large and small. For example, a small stream in a rural neighborhood may have a tiny watershed. In contrast, the Mississippi River's watershed covers almost two-thirds of North America!

Consider a small stream high in the mountains. Its watershed consists of the few underground springs and precipitation runoff from the land just above it. As the stream flows downhill, it enters successively larger bodies of water, including a bigger stream, a river, perhaps a lake, and eventually the ocean - all of which have correspondingly larger watersheds. Watersheds of all sizes have complex processes affecting the quality of the water draining out of them.

Of course, humans use water for drinking, cleaning, cooking, and carrying away waste. To obtain water for these uses, we have built pipes, dams, water treatment plants (both for treating water before it enters our homes and after it leaves them), and other structures for transporting water. Because we depend on water that is free of pollutants and as clean as possible, it is often necessary to responsibly manage the watersheds that provide the water we use. Indeed, many towns and cities have watershed management plans to ensure the quality - and quantity - of their water sources.

As watersheds become developed, stormwater runs off from roads, fields, parking lots, and buildings. Roadside ditches are designed and managed to prevent flooding of these structures by providing rapid flow of runoff water. However, impacts on quantity and quality of water in streams and lakes typically is not considered when ditches are designed, built, and maintained. Through investigations of roadside ditches, students can learn about surface water runoff and its impact on downstream waters.

**http://ei.cornell.edu/watersheds/**